THE MINERAL INDUSTRY OF CUBA

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Cuba, which is located about 150 kilometers (km) from Key West, Florida, is the largest island of the Greater Antilles island arc. Cuba's territory, which includes Isla de la Juventud and several other islets and cays, comprises a total land area of 110,860 square kilometers. In 2004, the country's population was estimated to be about 11.3 million (U.S. Central Intelligence Agency, 2004§[1]). Most of Cuba's means of production were owned and run by the Government. Nickel continued to be the most important mineral commodity to the Cuban economy followed by cobalt, which was produced as a byproduct of nickel mining. Nickel was one of the country's main sources of foreign exchange. Industrial minerals produced included cement, clays, crushed stone, feldspar, salt, and silica sand (table 1). Cuba also produced ammonia, gold, natural gas, petroleum, petroleum products, and sulfur as a byproduct of petroleum refining.

In 2004, the country's estimated gross domestic product (GDP) at purchasing power parity was about $33.9 billion; the estimated per capita GDP at purchasing power parity was about $3,000. Exports, which consisted mainly of citrus, coffee, fish, medical products, nickel, sugar, and tobacco, were valued at $2.1 billion compared with $1.5 billion in 2003 (U.S. Central Intelligence Agency, 2005§). Nickel accounted for about 61% of total exports (Embassy of Cuba, Tokyo, Japan, 2005§).

The Ministerio de la Industria Básica was the Government entity responsible for the minerals and petroleum sectors. Unión Geológico Minera S.A. (Geominera) was the company in charge of prospecting, exploration, and mining of all metallic and nonmetallic minerals with the exception of cobalt and nickel, which were overseen by Unión del Níquel S.A. Cubapetróleo S.A. (CUPET) was the company in charge of petroleum prospecting, exploration, marketing, and refining. These companies were owned by the Government.

Government Policies and Programs

According to the U.S. Department of State (2005§), the Government in 2004 was seeking tighter state control over the economy by pursuing a policy of recentralization. The Cuban economy was still recovering from a decline in the GDP of at least 35% between 1989 and 1993 following the disintegration of the Soviet bloc and the loss of Soviet subsidies. Growth rates continued to stagnate in 2002 and 2003. Remittances, which were estimated to be between $600 million and $1 billion per year, were captured by the Government by allowing citizens to shop in Government-run stores that sold clothing, food, and household items at an average markup of more than 240% (De Miranda, 2005).

In 2003, the Government pulled back on the market reforms that it had introduced in 1993 and 1994; these had included allowing for foreign investment and legalizing the dollar. It announced its intention to restrict certain dollar transactions by ordering state firms to deal only in convertible pesos. The convertible peso was introduced in 1994 by the Cuban National Bank as a proxy for the dollar following the legalization of the use of foreign currency in 1993. In November 2004, a new Government directive that imposed a 10% commission on all dollar transactions was made effective. The directive stipulated a list of activities that companies could no longer offer for hard currency. The list included cargo transport, construction, demolition, maritime services, rental of vehicles or factory and warehouse space, and repair and maintenance of industrial equipment. The convertible peso was pegged to the dollar, but had no value outside Cuba (Frank, 2004a, b).

In December 2004, the Governments of Cuba and Venezuela signed the Bolivarian Alternative for the Americas Agreement (ALBA), which arranged for cooperation and bilateral relations between the two countries. Under the ALBA, Venezuela would supply Cuba with about 90,000 barrels per day (bbl/d) of petroleum, for which Cuba agreed to pay not less than $27 per barrel. The ALBA also allows for the retention of 100% property rights for Venezuelan investments in Cuba, the opening of state bank subsidiaries in each other's country, the elimination of tariffs and import duties on Venezuelan imported goods, tax exemption for all Venezuelan capital in Cuba, and the financing of infrastructure projects (Canadian Foundation for the Americas, The, 2004b§; Cuba.com, 2004§; Frontline, 2004§; Havana Journal, 2004b§).

Cuban Government officials participated in the second meeting of the Energy Ministers of the Caribbean and Venezuela, which was held in Jamaica in August 2004. The purpose of the meeting was to discuss the PetroCaribe initiative, which was a plan proposed by the Venezuelan Government to offset high oil prices by providing petroleum and refined petroleum products to Caribbean countries at discount prices. Officials agreed to create a commission that would be led by Venezuela to study the plan (Associated Press, 2004§).

In 2004, 16 agreements, which included deals to buy and explore for nickel and to build a nickel-processing plant, were signed with China. Chinese and Malaysian Government officials visited the country seeking investment opportunities. Minmetals Corp. and Sinopec Corp. of China and Petroliam Nasional Bhd (Petronas) of Malaysia were among the companies interested in investing in the minerals sector, in particular in exploring in the Gulf of Mexico. Petronas and Sinopec were interested in Cuba's petroleum potential in the Gulf of Mexico (Havana Journal, 2004g§). Among the economic agreements China signed with Cuba was a 10-year postponement of payments to China on the debt Cuba contracted between 1990 and 1994 (BBC Mundo.com, 2004§; Lexington Institute, The, 2005§).

[1]References that include a section mark (§) are found in the Internet References Cited section.

Under a joint cooperation program with the United Nations and the Spanish Agency for International Cooperation, the Government planned to use closed mine facilities within the country that complied with environmental regulations for the training of geology students (Ellis, 2004).

Trade

Cuba's principal trading partner in 2004 was Venezuela followed by Spain and China. Nickel was one of Cuba's main exports to China. According to the International Nickel Study Group (2005, p. 31-32), about 80% of the nickel oxide sinter imported by China came from Cuba in 2004. Trade between China and Cuba was estimated to have been about $400 million per year from 2001 to 2003, but was estimated to have increased by 50% to more than $600 million during the first 10 months of 2004 (BBC Mundo.com, 2004§; BBC News, 2004§; Granma Internacional, 2004b§). Cuba exported cement and nickel oxide to Brazil (Agencia de Información Fray Tito para América Latina, 2004§).

In early July, the Cámera de Comercio in Havana conducted a workshop on Cuban-Chinese trade cooperation. About 30 Chinese entrepreneurs attended the workshop and met with representatives of the Cámera de Comercio and with the Ministerio para la Inversión Extranjera y la Colaboración Económica to seek business opportunities within Cuba (Havana Journal, 2004c§).

Commodity Review

Metals

Cobalt.—In 2004, production of cobalt, which included ammonical liquor precipitate, oxide, and sulfide, increased by about 2% to 4,055 metric tons (t) from 3,982 t in 2003 (table 1).

Copper.—The Matahambre and the Mina Grande El Cobre copper mines remained closed during the year. The Mantua copper project, which was owned by Geominera, Miramar Mining Corp., and Northern Orion Resources Inc., was on hold during part of the year (Ellis, 2004).

Gold.—Holmer Gold Mines Ltd. was exploring for gold in Pinar del Rio. A local company (name not disclosed) was mining for gold at the Castellanos gold mine; annual production was about 550 kilograms (kg) (reported as 17,600 troy ounces). The Delita gold deposit in Isla de la Juventud was being studied for possible open pit and underground operations; the estimated resource at Delita was about 47,000 kg (reported as 1.5 million troy ounces) that contain high proportions of antimony and arsenic (Ellis, 2004).

Iron and Steel.— In 2003, the Government restructured the steel industry by creating six steel companies that were to operate under Grupo Metalúrgico Acinox, whose activities were overseen by the Ministerio de la Industria Sideromecánica. Empresa de Aceros Inoxidables, which is located in the Las Tunas Province industrial zone about 130 km from the Nicaro nickel plant and 700 km from Havana, produced 97,000 t of carbon steel in 2004. Las Tunas plant had a production capacity of about 150,000 metric tons per year (t/yr) of stainless steel and 220,000 t/yr of carbon steel (Periódico 26, 2004§; Acinox Tunas, 2005§; Visión Tunera, 2005§). The feed for the plant came from steel scrap obtained from old railways, industrial and naval equipment, imported ferroalloys, and nickel sinter produced in Cuba. The Antillana de Acero steel plant, which had planned to produce about 200,000 t in 2004, operated at one-half its capacity during the year owing to power shortages in the country (Cubanet News, 2004§).

Nickel.—Production of mined nickel (nickel content of nickel oxide, nickel-cobalt sulfide, and nickel-cobalt ammonium liquor) was 71,944 t in 2004 (table 1). Production of nickel and cobalt came from three operations—two produced nickel oxide, and one, the intermediate product nickel-cobalt sulfide. Cobalt and refined nickel were derived from the treatment of mixed sulfides from the Moa Nickel S.A. facilities. Moa Nickel was a mining and processing operation that was part of a vertically integrated joint-venture company between the Government of Cuba (50%) and Sherritt International Corp. of Canada (50%). Mixed sulfides produced at Moa were shipped to Canada and then transported by rail to Sherritt's refinery in Fort Saskatchewan, Alberta, to produce refined nickel and cobalt. Production of nickel oxide in 2004 was 38,824 t. Nickel in ammonium liquor was about 2,121 t (table 1).

Sherritt planned to increase annual production of contained nickel plus cobalt by 16,000 t to a total of 49,000 t. Works were expected to begin in 2005 with project commissioning expected by the end of 2007. Sherritt estimated proven and probable nickel ore reserves to exceed 27 million metric tons and estimated production to last for an additional 9 years at current (2004) production rates (Sherritt International Corp., 2005, p. 3, 6, 20).

As part of the 16 agreements signed with Cuba in 2004, China was to invest more than $500 million to complete the construction of an abandoned ferronickel plant in eastern Cuba. The plant, which had a production capacity of 22,500 t/yr, had been built and financed by the Soviets but was left unfinished when the Soviet Bloc collapsed. In addition, Cuba pledged to supply China with 4,000 t/yr of nickel from 2005 to 2009. China was also interested in establishing a new joint-venture company with the Cuban Government to prospect for nickel in Cuba and for the development of new nickel deposits in Camaguey and San Felipe. Cuba and China will own 51% and 49%, respectively, of the new company (BBC Mundo.com, 2004§; Granma Internacional, 2004a§; Lexington Institute, The, 2005§).

Silver.—Holmer Gold Mines Ltd. continued to wait for Government approval for its Loma Hierro Silver Project. Holmer held a 50% interest in Loma Hierro and was seeking financing for the project in 2004. Geominera S.A. held the remaining 50% (Ellis, 2004).

Industrial Minerals

Cement.—Plans to update Cementos Cienfuegos S.A. (known as Fábrica de Cementos Carlos Marx) were underway in 2004. Cementos Cienfuegos was a 50-50 joint venture between Grupo Empresarial Cemento-Vidrio (a subsidiary of the Ministerio de la Industria Básica) and Las Pailas de Cemento S.A. (a Spanish company controlled by a private investment bank). The joint venture was to invest $105 million in 2004 to modernize the plant and to increase production to 1.65 million metric tons per year (Mt/yr). Production will come from two kilns—one that will produce 1.1 Mt/yr and the other, 550,000 t/yr. Cuba exported from 700,000 to 800,000 t/yr of cement, one-half of which was destined for the Dominican Republic, and the rest, for other Caribbean markets. Besides having been used by the Government in infrastructure projects since 2003, portland cement was being sold to the Cuban public through Corporación Cimex S.A., which was a Government-owned entity in charge of controlling the sale of all products in foreign exchange stores. Cuban cement consumption stood at about 90 kilograms per person and was sold at $6 per 100-pound bag, or $142 per metric ton. Domestic sales accounted for about 5% of Cuba's total cement market (Cement Americas, 2004§; CubaIndustria, 2004b§).

Zeolites.—Cuba had three deposits from which it extracted zeolites. Geominera Oriente, which is located in Holguin Province, was one of the companies that produced zeolite. The Holguin operation had a production capacity of 58,000 t/yr (CubaIndustria, 2004e§).

Mineral Fuels

Natural Gas.—Cuba's natural gas production was all associated gas. The associated gas produced from the Varadero fields had been flared for many years, thus creating considerable air pollution owing to its hydrogen sulfide content. In 2004, the associated natural gas from the Varadero fields, in addition to that of the Jaruco and the Puerto Escondido fields, was being used as fuel for onsite electricity generation (Piñón, 2004, p. 7).

Petroleum.—Cuba has two oil-bearing regions. Most of the discoveries in the northern region have been of low-gravity, high-sulfur-quality crude oil along with associated natural gas. In the southern region, results of some exploration work done in the past in the Gulfs of Ana Maria, Guacanayabo, and Jardines de la Reina were not promising. Cuba's petroleum and gas potential was believed to be deep offshore Gulf of Mexico (Piñón, 2004, p. 3-5). About 90% of Cuba's electricity was generated by using domestic petroleum and associated natural gas. Petroleum and natural gas were also used in the production of cement and nickel, and smaller quantities were refined and used in the production of asphalt (CubaIndustria, 2004a§).

In 2004, 174 petroleum wells were in production, 170 of which are located in the Matanzas region (CubaIndustria, 2004c, d§). The Cuban Government granted Repsol-YPF S.A. of Spain the right to explore in five blocks offshore (Havana Journal, 2004a§). The company began drilling for oil about 29 km offshore northwestern Cuba in July and later announced that the first well drilled was noncommercial (Havana Journal, 2004d§).

Brazil's Petroleos Brasileiros S.A. signed a letter of intent in 2003 for the exchange of technological information with Cubapetróleo S.A. and indicated in 2004 that it was considering Cuba's invitation to explore for oil in the deepwater Gulf of Mexico (Oil & Gas Journal, 2004).

Cuba and Venezuela were studying a petroleum supply plan for 2005, which included using Cuban facilities for the distribution of Venezuelan petroleum to the Caribbean (Embassy of Cuba, Damascus, Lebanon, 2005§). Cuba's external petroleum debt to Venezuela was estimated to be about $900 million (Alexander's Gas & Oil Connections, 2004§).

Pebercan was exploring for petroleum in the Seboruco field. The company conducted a three-dimensional seismic campaign in 2003, and several wells were drilled. Following the drilling program, the Seboruco 4 well was brought into production in March 2004 followed by the Seboruco 7 well in May, and the Seboruco 5 well in August. The company began drilling Seboruco 8 and Seboruco 10 in October (Havana Journal, 2004f§).

A petroleum deposit with an estimated 100-million-barrel reserve was discovered at the Santa Cruz field, which is located off the east coast of Havana, by Sherritt International Corp. and Pebercan Inc. in December. The petroleum had a gravity of 18 API and contained less than 5% sulfur, which was of better quality than the petroleum used in Cuba for power generation, which had an average gravity of 16 API and a sulfur content of 8%. Production was expected to begin in 2006. An appraisal program was planned for 2005 to determine the commercial viability of the discovery. The company planned to invest $128 million in exploration in Cuba during 2005 (Sherritt International Corp., 2005, p. 4; Canadian Foundation for the Americas, The, 2004c§).

Oil was produced by Sherritt from near-shore oil deposits, which were explored for in and developed from land-based drilling locations. The company held indirect working interest that varied from 40% to 100% in 10 production-sharing contracts (PSCs) in Cuba. Most of Sherritt's Cuban oil production was derived from the Canasi, the Puerto Escondido, the Seboruco, the Varadero West, and the Yumuri oilfields. Sherritt also had several drill-ready exploration prospects in the country. Other working interests included the exclusive exploration rights on four blocks in Cuba's deepwater economic zone off the north coast and 100% indirect working interests in four PCSs with the Government. In 2004, Sherritt's gross working interest petroleum production decreased to 42,072 bbl/d from 48,805 bbl/d in 2003 (Sherritt International Corp., 2005, p. 24, 26).

The Government planned to move petroleum refining away from Havana and to centralize it at Cienfuegos where an old Soviet-built plant would be modernized in the event that significant quantities of light petroleum were discovered in the country (Petroleum Economist, 2004). According to the U.S. Energy Information Administration (2005§), Cuba operated four refineries with a total refining capacity of about 300,000 bbl/d. The refineries, which were operated by Cubapetroleo S.A., were Hermanos Diaz, Ñico Lopez, Cienfuegos, and Sergio Soto with refining capacities of 121,800 bbl/d, 101,500 bbl/d, 76,000 bbl/d, and 2,100 bbl/d, respectively (Piñón, 2004, p. 8-10).

Although Cuba's refineries have undergone some processing upgrades, Hermanos Diaz and Ñico Lopez were technologically obsolete and energy and environmentally inefficient. The Cienfuegos refinery was not operational. Many foreign national petroleum companies, which included Petroleo Brasileiro S.A., Empresa Colombiana de Petroleo, Petroleos Mexicanos, and Petroleos de Venezuela S.A. (PDVSA), had evaluated the economic potential of upgrading the Cienfuegos plant, but concluded that it was not economic. The updating of these refineries was estimated to require investments of about $350 million in addition to $100 million for environmental remediation and cleanup (Piñon, 2004, p. 9). In 2004, PDVSA showed interest in jointly developing the Cienfuegos refinery (Embassy of Cuba, Tokyo, Japan, 2005§).

Infrastructure

Plans to upgrade the country's thermoelectric plants to use heavier crude were underway in 2004. The Government announced daily planned blackouts for the country following a breakdown in May of the Matanzas oil-fueled powerplant and breakdowns at other powerplants during the year (Economy News, 2004§; Havana Journal, 2004e§).

In collaboration with the Venezuelan Government, Sherritt proposed the construction of a thermoelectric plant in Cuba that would operate with coal. In December, Venezuela reached a preliminary agreement with the Cuban Government to supply Cuba with 500,000 t/yr of coal to be used in a thermoelectric plant to be built in Cuba by a Chinese company; the plant would generate electricity to be used in the processing of nickel. Venezuela was to import part of the nickel produced to be used in the manufacturing of stainless steel. China was also interested in building a plant in Cuba to produce stainless steel; the plant would use Cuban nickel and Venezuelan coal (Embassy of Cuba, Tokyo, Japan, 2005§; Canadian Foundation for the Americas, The, 2004a§, 2005§).

During October, 118 industrial installations, which included the Antillana de Acero steel mill and the Artemisa cement plant, were closed. This was part of a Government plan to try to reduce failures in the country's electricity supply system following the breakdown in May of the Matanzas plant, which provided about 15% of the country's electricity. The Government planned a series of blackouts throughout the year to reduce stress on the system. Cuba had seven thermoelectric plants (Iran Daily, 2004; CBSNews.com, 2004§).

Outlook

The signing of the ALBA, which arranges for cooperation and bilateral relations between Cuba and Venezuela and allows for an increasing number of Venezuelan subsidies to Cuba; Venezuela's interest in developing the Cienfuegos petroleum refinery; recent Chinese investments in the country's mining sector, which included a contract to buy 4,000 t/yr of nickel, the refurbishing of an abandoned ferronickel plant, and development of new nickel deposits within the country by Chinese interests; ongoing gold and silver exploration; the recent discovery of petroleum in the Santa Cruz oilfield; the interest of foreign investors in exploring for petroleum offshore Cuba; Sherritt's plans to increase annual production of contained nickel; and higher nickel and petroleum prices suggest that the mining sector is likely to become an increasingly important part of the Cuban economy in the next 3 to 5 years. The growth potential of the mining sector, however, can be hindered by the Government's policy of recentralization, which may discourage direct foreign investments in the country.

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TABLE 1
ISLANDS OF THE CARIBBEAN: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Country and commodity[2, 3]		2000	2001	2002	2003[e]	2004[e]
Asphalt		69,000	70,000 [e]	70,000	70,000	70,000
Cement, hydraulic[4]		1,632,700	1,324,100 [5]	1,326,900 [5]	1,345,500 [r, 5]	1,365,600
Chromite		56,300	50,000 [r]	46,000	27,600 [r]	42,487 [8]
Cobalt, mine output, Co content:[4, 6]						
Oxide, oxide sinter, sulfide, ammonical liquor precipitate		3,336	3,915	3,858	3,982 [7, 8]	4,055 [7, 8]
Sulfide and ammonical liquor precipitate		2,852	3,417	3,384	3,465 [7, 8]	3,580 [7, 8]
Copper, mine output, Cu content		1,346	1,000 [e]	1,000 [e]	--	--
Feldspar		6,700	7,000 [e]	7,000	7,000	7,000
Gold[e]	kilograms	1,000	1,000	1,000	547 [8]	547 [6]
Gypsum[e]	thousand metric tons	130	130	130	130	130
Iron and steel, steel, crude		327,300	269,600	264,100	268,000	197,000
Kaolin clay		9,700	10,000 [e]	10,000	10,000	10,000
Lime	thousand metric tons	82	80 [e]	80	80	80
Natural gas, marketed	thousand cubic meters	574,100	594,600 [5]	584,700 [5]	658,000 [r, 5]	660,000
Nickel, Ni content:						
Mine output, oxide, oxide sinter, sulfide, ammonical liquor precipitate		68,064 [r]	72,585 [r]	71,342 [r]	74,018 [7, 8]	71,944 [7, 8]
Metallurgical products:[6]						
Granular oxide, oxide sinter, powder		39,516 [r]	40,701 [r]	38,738 [r]	42,282 [7, 8]	38,824 [7, 8]
Sulfide		27,288 [r]	29,914 [7]	30,858 [7]	29,620 [7, 8]	30,999 [7, 8]
Ammonical liquor		1,260 [r]	1,970 [r]	1,746 [r]	2,116 [7, 8]	2,121 [7, 8]
Total		68,064	72,585	71,342	74,018 [7, 8]	71,944 [7, 8]
Nitrogen, N content of ammonia[e]	thousand metric tons	135	135	135	135	135
Petroleum:						
Crude[9]	thousand 42-gallon barrels	17,382	17,886 [r, 5]	22,787 [r, 5]	23,803 [r, 5]	28,470
Refinery products	do.	60,000	60,000	60,000 [e]	60,000	60,000
Salt		177,000	180,000 [e]	180,000	180,000	188,000
Sand		1,989,300	2,000,000 [e]	2,000,000	2,000,000	2,000,000
Silica sand		52,400	50,000 [e]	50,000	50,000	50,000
Stone, crushed		3,301,300	3,300,000	3,300,000 [e]	3,300,000	3,300,000
Sulfur, byproduct of petroleum[e]		5,000	5,000	5,000	5,000	5,000
Zeolites		37,400	37,500 [e]	37,500	37,500	37,500

[e]Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. [r]Revised. -- Zero.

[1]Table includes data available through September 12, 2005.

[2]In addition to commodities listed, crude construction materials (sand and gravel, etc.) may be also produced, but data on such production are not available, and information is inadequate to make reliable estimates of output levels.

[3]Cuba also produced marble and stone, but data on such production are not available, and information is inadequate to make reliable estimates of output levels.

[4]Source: Anuario Estadistico de Cuba.

[5]Source: Sitio del Gobierno de la República de Cuba at URL http://www.cubagob.cu.

[6]The Government of Cuba reports figures of nickel-cobalt content of granular and powder oxide, oxide sinter, and sulfide production. The cobalt content of reported nickel-cobalt production was determined to be 1.16% of granular and powder oxide, 1.21% of oxide sinter, 7.56% of sulfide, and 33% of ammonical liquor. The remainder of reported figures would represent the nickel content.

[7]Sources: International Nickel Study Group (INSG), and Sherritt International Corp. Sitio del Gobierno de la República de Cuba at URL http://www.cubagob.cu.

[8]Reported figure.

[9]Production has been converted from metric tons to barrels by using the U.S. Energy Information Administration's factor of 6.449 barrels per metric ton of crude petroleum.

TABLE 2
CUBA: STRUCTURE OF THE MINERAL INDUSTRY IN 2004

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Cement	Cementos Cienfuegos S.A. (Government, 50%, and Las Pailas de Cemento S.A., 50%)	Cienfuegos, Cuba	1,500.
Do.	Fábrica de Cemento 26 de julio	Nuevitas, Cuba	600.
Do.	Fábrica de Cemento Mártires de Artemisa	Artemisa, Cuba	600.
Do.	Cementos Curazao N.V.	Barrio Mujica, Mariel Province	1,110.
Do.	Fábrica de Cemento Siguaney	Santis Spiritus	300.
Chromite	Grupo Empresarial Cubaníquel S.A. (Government, 100%):		
Do.	Cromo-Moa (Ecromoa), Las Merceditas Mine	Moa, Holguin Province	30.
Cobalt	Metals Enterprise S.A. (Government, 50%, and Sherritt International Corporation, 50%)	do.	3.
Copper	Mina Grande El Cobre (Government, 100%)	Santiago de Cuba Province	Closed in 2001.
Do.	Matahambre Mine (Government, 100%)	Pinar del Rio Province	Closed in 1997.
Gold kilograms	Castellanos Gold Mine	Santa Lucia, Pinar del Rio Province	550.
Do.	Gold Mine	Isla de la Juventud	closed.
Nickel	Empresa Niquelífera Ernesto Che Guevara	Moa, Holguin Province	31.5.
Do.	Moa Nickel S.A. (Government, 50%, and Sherritt International Corporation, 50%)	do.	33.
Do.	Empresa Niquelífera Comandante René Ramos Latour (Government, 100%)	Nicaro, Holguin Province	12.4.
Petroleum, crude: thousand barrels per year	Empresa de Perforación y Extracción de Petróleo del Centro (Government, 100%)	Northern coast between Havana and Cardenas	12.
Do.	Sherrit International (indirect working interests varying from 40% to 100% in 10 production-sharing contracts with the Government)	Near shore oilfields located at Yumuri, Varadero, Canasi, and Puerto Escondido	7,000.
Refinery products thousand barrels per year	Cienfuegos (not operating)	Cienfuegos	27,740.
Do.	Hermanos Diaz	Santiago	37,048.
Do.	Ñico López	Havana	44,457.
Do.	Sergio Soto	Cabaiguan	767.
Sand	Algaba quarry	Sancti Spiritus, Municipality	50.
Do.	Malabe quarry	NA	32.
Do.	Cajobabo	Municipality of Imias	NA.
Steel	Grupo Metalúrgico Acinox (Government, 100%):		
Do.	Antillana de Acero	Cotorro, Havana Province	600.
Do.	Empresa de Aceros Inoxidables	Las Tunas, Las Tunas Province	370.
Do.	4 other steel plants	NA	NA.
Zeolite	Empresa Geominera Oriente	Holguin Province	58.

NA Not available.